

Telemedicine Standards in DoD

NIST

13 December 2006

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TATRC-MRMC**

AKO Teleconsultation Summary

• Program Summary

- 10+ specialties with contact groups: xxx.consult@us.army.mil
- 1,886 teleconsultations (April 2004 to July 2006 – 29 months)
- 47 known evacuations prevented
 - ✓ 3 evacuations prevented in August
- 42 known evacuations facilitated following consultant's recommendation
 - ✓ 5 evacuations facilitated in August
- 648 different referring health care professionals
- 250 teleconsultations on non - US patients
- Average Reply Time 5 hr 9 min

Year	Reply Time
2004	5 hr 9 min
2005	5 hr 16 min
2006	4 hr 59 min
Aug 2006	4 hr 9 min
Program	5 hr 9 min

Non-U.S. Patients			
Country	Consults	Country	Consults
Afghanistan Army	2	Iraqi Army	11
Afghanistan Non-Combatants	59	Iraqi Detainee	8
Australian Army	1	Italian Navy	1
Australian Navy	2	Jordanian Soldier	1
Bosnian Child	1	Korean Army	1
Bosnian Officer	1	Kyrgyzstan Contractor	1
British Soldier	1	Napalese Contractor	3
Canadian Soldier	1	New Zealand Contractor	1
Columbian Army	2	Pakistan	30
Dutch Army	2	Poland Army	1
Fijian Contractor	3	Saudi Detainee	1
Hungarian Contractor	1	Scottish Civilian	1
Hungarian Soldier	9	SE Asian (not specified)	1
India Army / Police	1	South Africa Contractor	2
India Contactor	8	Sri Lanka Contractor	1
Iraq Civilian	84	Turkey Contractor	1
Iraqi Air Force	1	Ugandian Army	6
Total			250

AKO.Consult Program Summary

- burntrauma.consult@us.army.mil
 - ✓ Managed by the Institute for Surgical Research, Ft Sam Houston
- cards.consult@us.army.mil
 - ✓ Managed by BAMC Cardiology
- derm.consult@us.army.mil
 - ✓ 4 Call Teams: BAMC, Walter Reed, Western, and Atlantic
- eye.consult@us.army.mil
 - ✓ On-call ophthalmologists based in Germany and Eastern US
- id.consult@us.army.mil (Infectious Diseases)
 - ✓ 3 Call Teams: BAMC, Walter Reed, and Western
- nephrology.consult@us.army.mil
 - ✓ Managed by various Army, Navy, and Air Force call teams
- picu.consult@us.army.mil (Pediatrics Intensive Care)
 - ✓ Walter Reed based with call teams from Hawaii to Germany
- pmom.consult@us.army.mil
 - ✓ Preventive Medicine and Occupational Medicine ... managed by CHPPM
- toxicology.consult@us.army.mil
 - ✓ BAMC based with participation by all DoD toxicologists
- rheum.consult@us.army.mil
 - ✓ Managed by TAMC with participation from many MTFs

Program Summary by:

Specialty

73% Dermatology
10% Infectious Dz.
5% Ophthalmology

	Total Consults All .consult Programs												Program Totals	% Consults Program
	2004 Totals	2005 Totals	2006											
			Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul		
Burn-Trauma		23	2	5	3	1	2	0	0	2	3	2	43	2%
Cardiology		2	1	14	3	4	2	0	10	8	5	9	58	3%
Dermatology	321	543	42	61	54	29	22	63	40	35	50	46	1,306	73%
Infectious Diseases		82	11	15	8	9	12	6	5	14	6	8	176	10%
Internal Medicine											1	0	1	0%
Nephrology		13	0	1	3	2	2	0	0	1	4	2	28	2%
Ophthalmology	10	51	6	3	2	2	2	2	2	3	2	5	90	5%
Pediatrics		8	2	4	2	1	0	3	1	3	2	0	26	1%
Rehabilitation									1	0		0	1	0.1%
Rheumatology										1	1	1	3	0.2%
Toxicology		2	0	0	0	2	3	1	4	4	2	2	20	1%
Other Specialties		7	0	1	1	1	2	1	8	14	5	9	49	3%
Totals	331	731	64	104	76	51	47	76	71	85	81	84	1,801	

Location

63% Iraq
11% Afghanistan
8% Kuwait

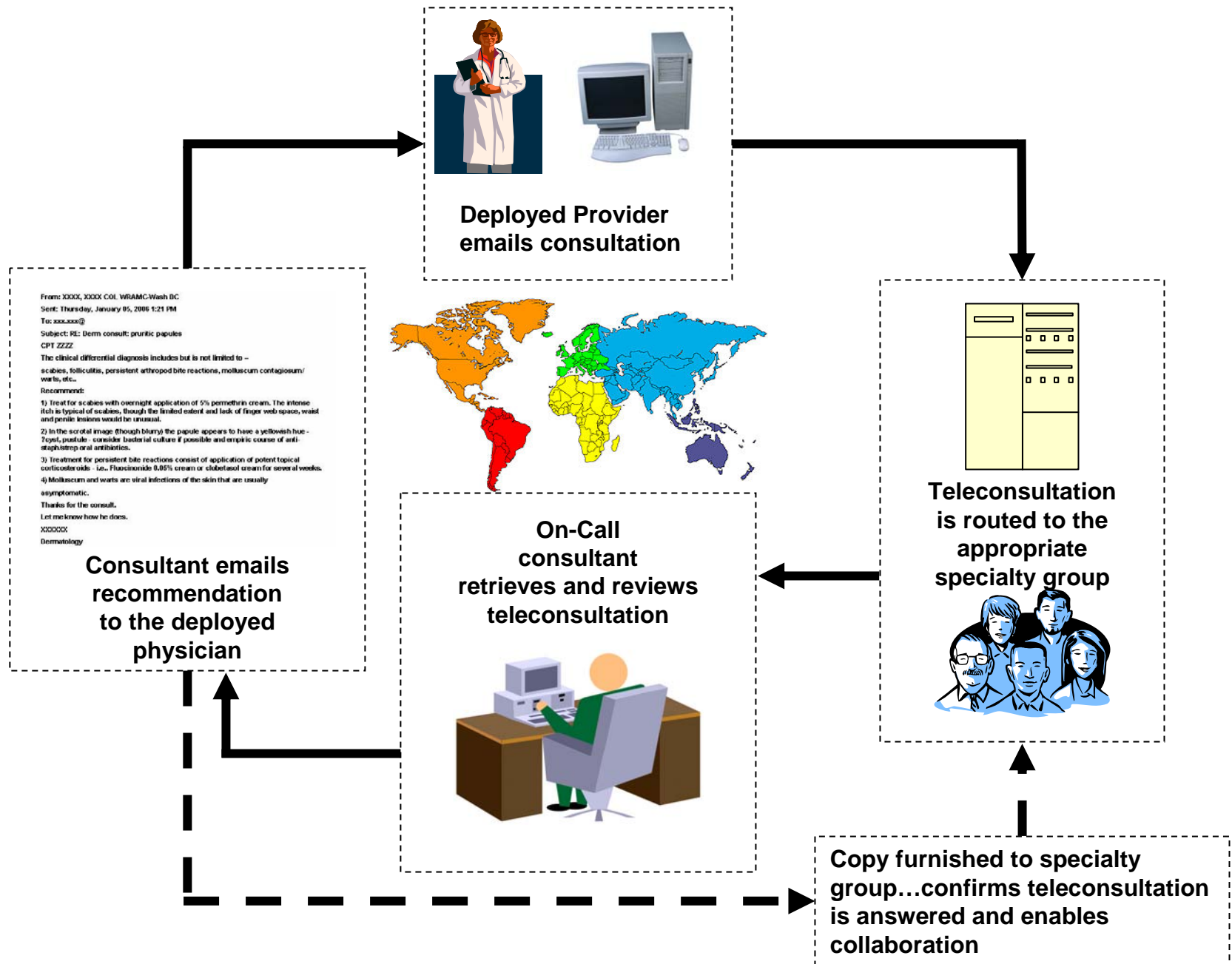
	Location of Referring Physician												Program Totals	% Consults Program
	2004 Total	2005 Total	2006											
			Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul		
Afghanistan	6	80	3	5	7	3	12	19	16	18	16	10	195	11%
Bosnia	25	22	2		1	1							51	3%
Chad	0	1											1	0.1%
CONUS	0	20	2	2			1		1		1		27	1%
Cuba (GTMO)	0								1				1	0%
Diego Garcia	0						2						2	0.1%
Egypt (MFO)	1	22	3	1		1	1		2	1	2	1	35	2%
Germany	0	9	1		1			1				1	13	1%
Honduras	0	1											1	0.1%
Iraq	197	477	33	65	50	35	25	49	46	61	57	48	1,143	63%
Italy	0					1				2		2	5	0.3%
Korea	0					1							1	0.1%
Kuwait	64	52	4		5	5	1	6	2	1	1	4	145	8%
Kyrgyzstan	0	2	1	2			2						7	0.4%
Okinawa	0	1											1	0.1%
Pakistan	1	2	5	25	7	1							41	2.3%
Qatar	2	29	9	4	5	3	3	1	3	2	4	5	70	4%
US Navy Afloat	16	4										10	30	2%
Not Stated	19	9	1									3	32	2%
Total	331	731	64	104	76	51	47	76	71	85	81	84	1,801	

Patient Branch

56% Army
12% Local National
9% Marine Corps

	Patient Branch													Program Totals	% Consults Program
	2004 Total	2005 Oct	2006												
			Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul			
Air Force	11	62	10	9	9	6	7	4	6	4	15	10	153	8.5%	
Army	252	405	29	53	33	24	20	41	39	42	33	40	1011	56.1%	
Marine Corps	8	101	6	8	7	3	2	7	4	4	9	8	167	9.3%	
Navy	18	8		1		1	1	1	3	3	0	11	47	2.6%	
Contractor	6	27	3	3	2	2	5	3	1	3	1	2	58	3.2%	
Detainee	3	13	1	2	4		3	1	2	4	3	2	38	2.1%	
Non-Combatant	13	43	5	22	17	8	6	12	13	17	15	6	177	9.8%	
Other	1	27	4	2	3	4		5	1	1	2	4	54	3.0%	
Not Stated/NA	19	45	6	4	1	3	3	2	2	7	3	1	96	5.3%	
Total	331	731	64	104	76	51	47	76	71	85	81	84	1,801		

Teleconsultation Program Business Practice



Army Medical Department Policy for use of E-mail Tele-consultation for Deployed Providers



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
HEADQUARTERS, UNITED STATES ARMY MEDICAL COMMAND
2050 WORTH ROAD
FORT SAM HOUSTON, TEXAS 78234-6000

DASG-IMD

OTSG/MEDCOM Policy Memo 05-004

17 MAR 2005

Expires 17 March 2007

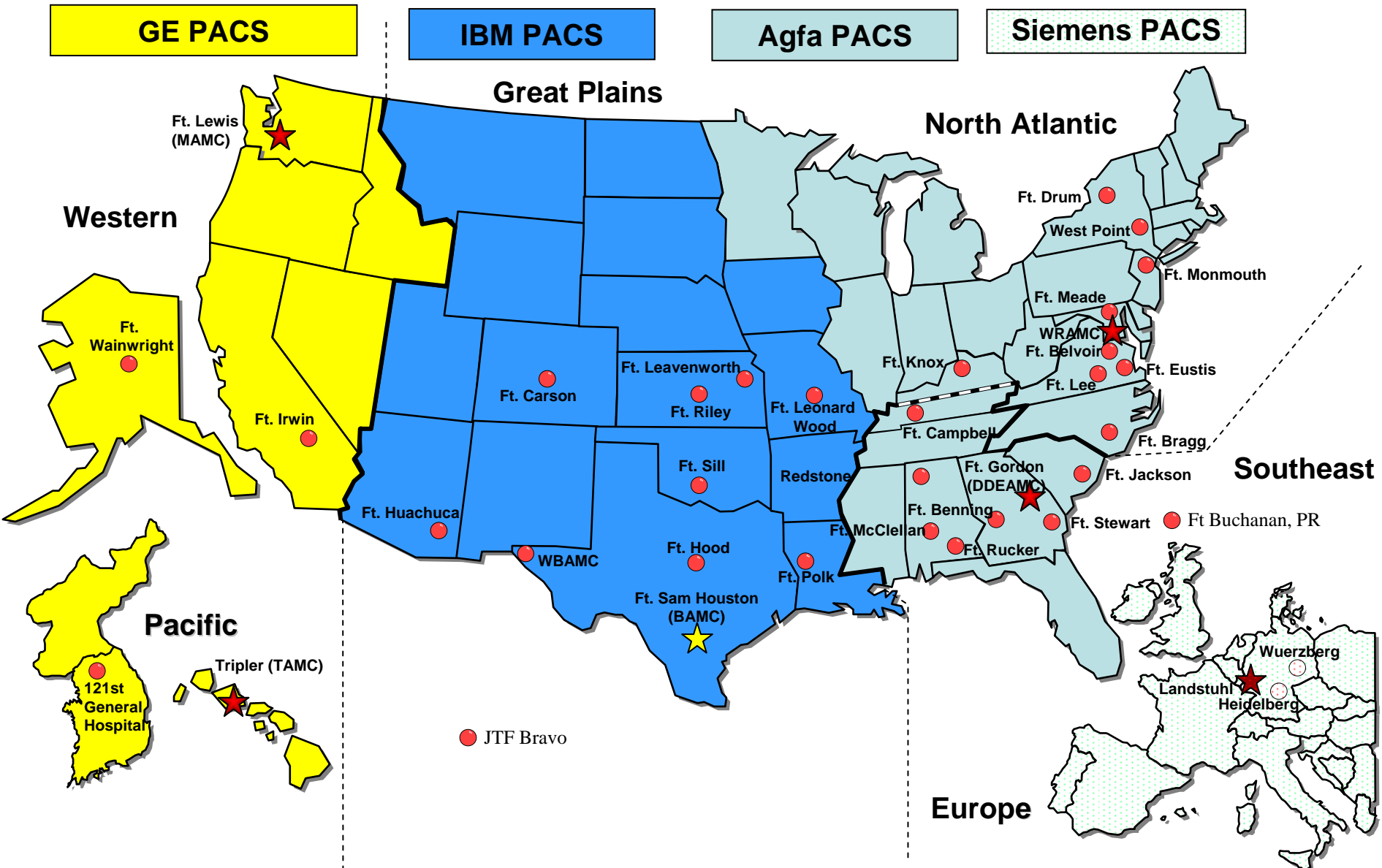
MEMORANDUM FOR DIRECTORS, OTSG/MEDCOM OneStaff

SUBJECT: Use of Army Knowledge Online (AKO) Email in Support of Electronic
Telehealth Medical Consultation by Deployed Providers

Teleconsultation Standards

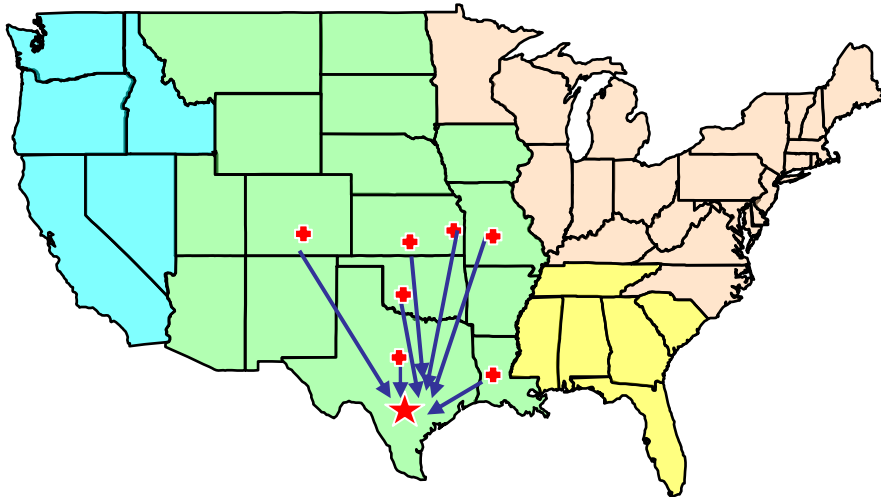
- Policy/Standards
 - Clinical
 - Guideline for what is and is not appropriate
 - What information to include
 - Imaging Protocol
 - Administrative
 - Guideline for training
 - Process and procedures to include QA
 - Time Standard for answering consults
 - Technical (weakest)
 - 1024x768 resolution recommended...
 - Problem: No standardized digital camera

Digital Radiology– Where are we today?

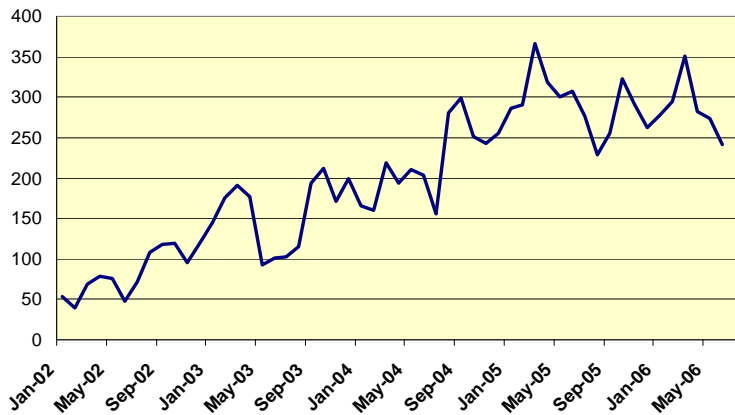


Tele-Health Initiatives

Tele-Echocardiology

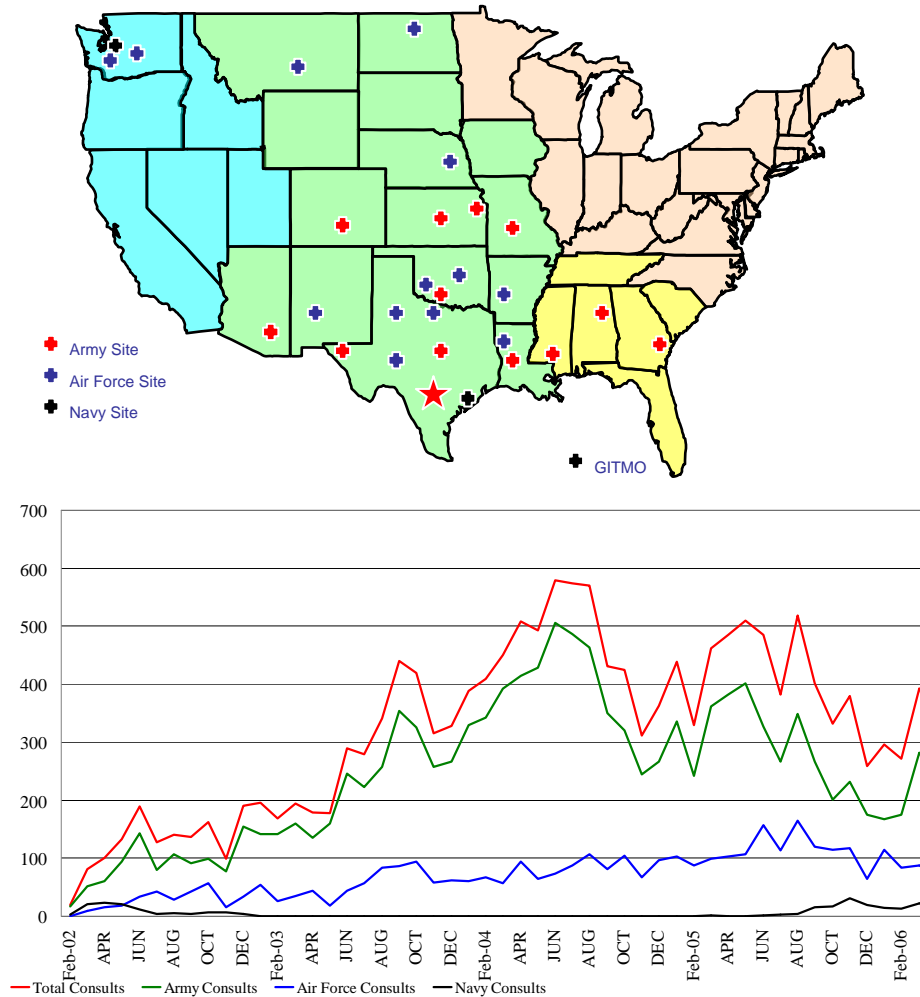


- Availability of echo depends on access to sonographer, equipment and cardiologist
- Digital echo and telemedicine technology bridge the gap to specialty diagnostic imaging
- All echos are read at BAMC



Telehealth Initiatives

Tele-Dermatology



- **17,805 consultations since inception of program**
- **18 reporting facilities**
 - **188 Army consults or 62% of total**
 - **92 Air Force consults or 30% of total**
 - **23 Navy consults or 7% of total**

Other Applications

- Teleneurosurgery
- Telemental health
- E-ICU
- Others

Observations

- No enterprise Telemedicine programs other than teleradiology
 - Except Telemedicine for Deployed Environment
- Regional Centers of Excellence
 - GPRMC (Teledermatology, Tele-echo)
 - WRAMC (Telemental Health)
 - Tripler (e-ICU)

Need for Better Standards

- DoD Telemedicine
 - Standards localized to regional programs not a centralized program
 - Army has the only Policy/Standards in telemedicine
 - Administrative
 - Clinical
- Issues
 - Lacking in technical standards
 - Lack of standardized equipment
 - Training variability from region to region
 - Pressure to create DoD wide standardized policy lacking... since telemedicine still region based...

DoD Telemedicine Challenges

- Lack of Technical Standards to adopt
 - Few exceptions (Diabetic retinopathy)
- Lack of Process & Framework to develop new telemedicine standards
- Lack of Standards has created
 - Limited telemedicine technology availability
 - Training has been difficult (digital camera)

Future

- Assumption: Convergence of Telemedicine with Health Information Technology (HIT)
- Standards should not be developed in isolation but rather in close coordination with other organizations developing standards
- Trends in HIT
 - Image Standards (DICOM)
 - CDA-R2
- Partnerships
 - Office of National Coordinator
 - NIST
 - Industry
 - Specialty Physician, Nursing, Other Healthcare Organizations
- ATA needs to take the leadership role in telemedicine standards...

Recommendations

- ATA and NIST must take leadership in development of
 - An overarching telemedicine standards
 - Framework for specialty specific standards
 - Home health care explosion
- Partnership is Key
 - Vendor
 - More standardized telemedicine equipment
 - Lower cost in equipment and training
 - ONC
 - Technical Standards Organization: ISO/HL-7/DICOM, Others
 - Specialty Societies
- Focus
 - Patient Safety and Quality of Care